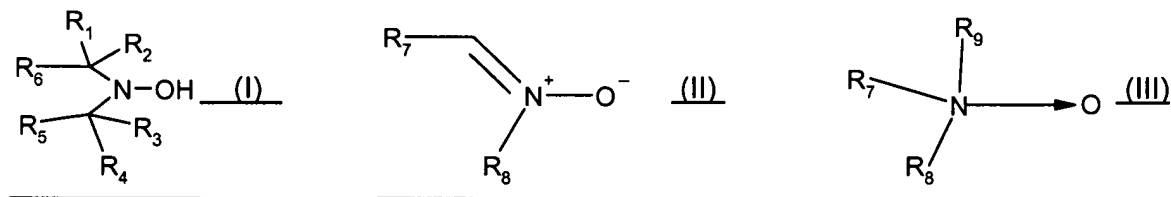


In the Claims

1. (currently amended) A polymerizable composition comprising

- a) an ethylenically unsaturated monomer;
- b) a radical polymerization initiator; and
- c) a hydroxylamine, a nitron or an alkyl N-oxid having a molecular weight of more than 250 g/mol,

where the hydroxylamine, the nitron and the alkyl N-oxid are of formulae (I), (II) and (III)



where

R₁, R₂, R₃ and R₄ are independently hydrogen, phenyl or C₁-C₄alkyl;

R₅ and R₆ are independently C₇-C₃₅alkyl, C₇-C₃₅alkenyl or C₇-C₃₅alkinyl, which may be unsubstituted or substituted by phenyl, halogen, NH₂, N(R₂₁)₂, -OH, -CN, -NO₂, or -COOR₂₁; or which may be interrupted by -O- or -C(O)-; or

R₅ and R₆ together are an alkylene bridge, which may be interrupted by a -O-, -C(O)- or a -N(C₁-C₁₈alkyl)- group to form a heterocyclic 5, 6, 7 or 8 membered ring, which may be further substituted by a -O-C(O)-]_nR₂₀, NR₂₁-C(O)-]_nR₂₀ or a ketal group;

n is 1 or 2; wherein, when n is 1, R₂₀ is hydrogen or C₁-C₁₈alkyl and, when n is 2, R₂₀ is

C₁-C₁₈alkylene; R₂₁ is hydrogen or C₁-C₁₈alkyl;

R₇ and R₈ are independently C₈-C₃₆alkyl; and

R₉ is C₁-C₄alkyl.

2. (previously presented) A polymerizable composition according to claim 1 wherein the ethylenically unsaturated monomer is selected from the group consisting of ethylene, propylene, n-butylene, i-butylene, styrene, substituted styrene, conjugated dienes, acrolein, vinyl acetate,

vinylpyrrolidone, vinylimidazole, maleic anhydride, (alkyl)acrylic acidanhydrides, (alkyl)acrylic acid salts, (alkyl)acrylic esters, (alkyl)acrylonitriles, (alkyl)acrylamides, vinyl halides and vinylidene halides.

3. (previously presented) A polymerizable composition according to claim 1 wherein the ethylenically unsaturated monomer is a compound of formula $\text{CH}_2=\text{C}(\text{R}_a)-(\text{C}=\text{Z})-\text{R}_b$, wherein Z is O or S;

R_a is hydrogen or $\text{C}_1\text{-C}_4$ alkyl;

R_b is NH_2 , $\text{O}^-(\text{Me}^+)$, glycidyl, unsubstituted $\text{C}_1\text{-C}_{18}$ alkoxy, $\text{C}_2\text{-C}_{100}$ alkoxy interrupted by at least one N and/or O atom, or hydroxy-substituted $\text{C}_1\text{-C}_{18}$ alkoxy, unsubstituted $\text{C}_1\text{-C}_{18}$ alkylamino, di($\text{C}_1\text{-C}_{18}$ alkyl)amino, hydroxy-substituted $\text{C}_1\text{-C}_{18}$ alkylamino or hydroxy-substituted di($\text{C}_1\text{-C}_{18}$ alkyl)amino, $-\text{O}-\text{CH}_2-\text{CH}_2-\text{N}(\text{CH}_3)_2$ or $-\text{O}-\text{CH}_2-\text{CH}_2-\text{N}^+\text{H}(\text{CH}_3)_2 \text{An}^-$;

An^- is an anion of a monovalent organic or inorganic acid; and

Me is a monovalent metal atom or the ammonium ion.

4. (original) A polymerizable composition according to claim 2 wherein the ethylenically unsaturated monomer is styrene, n-butylacrylate, tert-butylacrylate, methylacrylate, ethylacrylate, propylacrylate, hexylacrylate or hydroxyethylacrylate.

5. (original) A polymerizable composition according to claim 1 wherein the radical polymerization initiator is an azo compound, a peroxide, a perester or a hydroperoxide.

6. (original) A polymerizable composition according to claim 5 wherein the radical polymerization initiator is an azo compound or a peroxide.

7. (canceled)

8. (currently amended) A polymerizable composition according to claim ~~[[7]]~~**1** wherein ~~the comprising a hydroxylamine is~~ of formula (I).

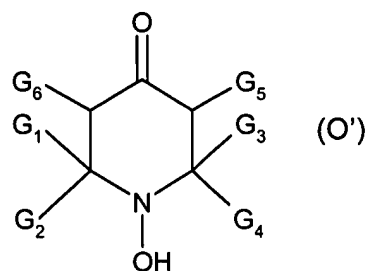
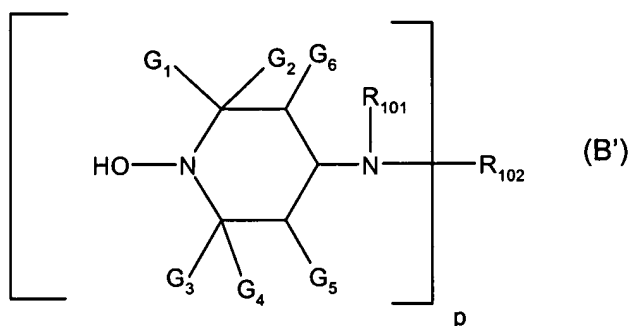
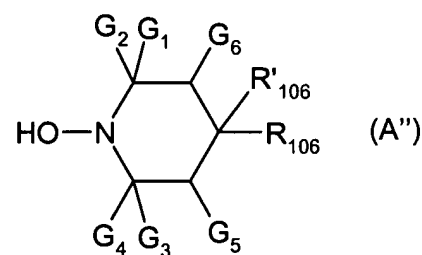
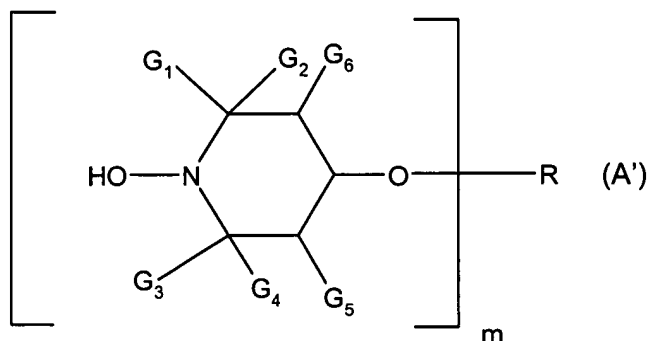
9. (currently amended) A polymerizable composition comprising

a) an ethylenically unsaturated monomer;

b) a radical polymerization initiator; and

c) a hydroxylamine having a molecular weight of more than 250 g/mol

~~according to claim 7 wherein the compound of formula (I) is of formula A', A'', B' or O'~~



wherein

m is 1,

R is hydrogen, C₁-C₁₈alkyl which is uninterrupted or interrupted by one or more oxygen atoms, cyanoethyl, benzoyl, glycidyl, a monovalent radical of an aliphatic carboxylic acid having 2 to 18 carbon atoms, of a cycloaliphatic carboxylic acid having 7 to 15 carbon atoms, or an α,β -unsaturated carboxylic acid having 3 to 5 carbon atoms or of an aromatic carboxylic acid having 7 to 15 carbon atoms;

p is 1;

R₁₀₁ is C₁-C₁₂alkyl, C₅-C₇cycloalkyl, C₇-C₈aralkyl, C₂-C₁₈alkanoyl, C₃-C₅alkenoyl or benzoyl;

R_{102} is C_1 - C_{18} alkyl, C_5 - C_7 cycloalkyl, C_2 - C_8 alkenyl unsubstituted or substituted by a cyano, carbonyl or carbamide group, or is glycidyl, a group of the formula $-CH_2CH(OH)-Z$ or of the formula $-CO-Z$ or $-CONH-Z$ wherein Z is hydrogen, methyl or phenyl;

R_{106} and R'_{106} together are both hydrogen, a group $=O$ or $=N-O-R_{120}$ wherein

R_{120} is H, straight or branched C_1 - C_{18} alkyl, C_3 - C_{18} alkenyl or C_3 - C_{18} alkinyl, which may be unsubstituted or substituted by one or more OH, C_1 - C_8 alkoxy, carboxy

or C_1 - C_8 alkoxycarbonyl; or is C_5 - C_{12} cycloalkyl or C_5 - C_{12} cycloalkenyl;

or is phenyl, C_7 - C_9 phenylalkyl or naphthyl which may be unsubstituted or substituted by one or more C_1 - C_8 alkyl, halogen, OH, C_1 - C_8 alkoxy, carboxy or C_1 - C_8 alkoxycarbonyl;

or is $-C(O)-C_1-C_{36}$ alkyl, or an acyl moiety of a α,β -unsaturated carboxylic acid having 3 to 5 carbon atoms or of an aromatic carboxylic acid having 7 to 15 carbon atoms;

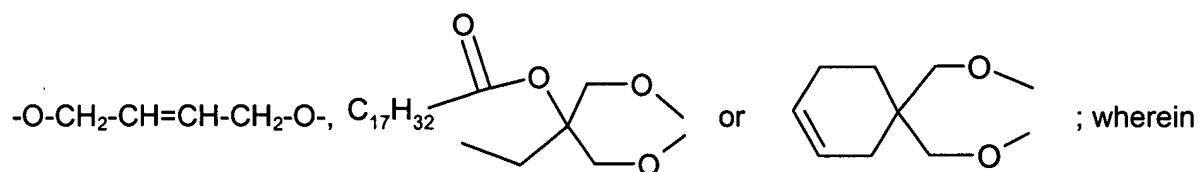
or is $-SO_3^-Q^+$, $-PO(O^-Q^+)_2$, $-P(O)(OR_2)_2$, $-SO_2-R_2$, $-CO-NH-R_2$, $-CONH_2$, $COOR_2$, or $Si(Me)_3$, wherein Q^+ is H^+ , ammonium or an alkali metal cation; or

R_{106} and R'_{106} are independently $-O-C_1-C_{12}$ alkyl, $-O-C_3-C_{12}$ alkenyl, $-O-C_3-C_{12}$ alkinyl,

$-O-C_5-C_8$ cycloalkyl, $-O$ -phenyl, $-O$ -naphthyl or $-O-C_7-C_9$ phenylalkyl; or

R_{106} and R'_{106} together form one of the bivalent groups $-O-C(R_{121})(R_{122})-CH(R_{123})-O-$,

$-O-CH(R_{121})-CH_2-C(R_{122})(R_{123})-O-$, $-O-CH(R_{122})-CH_2-C(R_{121})(R_{123})-O-$, $-O-CH_2-C(R_{121})(R_{122})-CH(R_{123})-O-$, $-O$ -*o*-phenylene- $O-$, $-O$ -1,2-cyclohexyliden- $O-$,



R_{121} is hydrogen, C_1 - C_{12} alkyl, $COOH$, $COO-(C_1-C_{12})$ alkyl or CH_2OR_{124} ;

R_{122} and R_{123} are independently hydrogen, methyl ethyl, $COOH$ or $COO-(C_1-C_{12})$ alkyl;

R_{124} is hydrogen, C_1 - C_{12} alkyl, benzyl, or a monovalent acyl residue derived from an aliphatic, cycloaliphatic or aromatic monocarboxylic acid having up to 18 carbon atoms;

G_6 is hydrogen and G_5 is hydrogen or C_1 - C_4 alkyl, and

G_1 , G_2 , G_3 and G_4 are methyl; or

G_1 and G_3 are methyl and G_2 and G_4 are ethyl or propyl or G_1 and G_2 are methyl and G_3 and G_4 are ethyl or propyl.

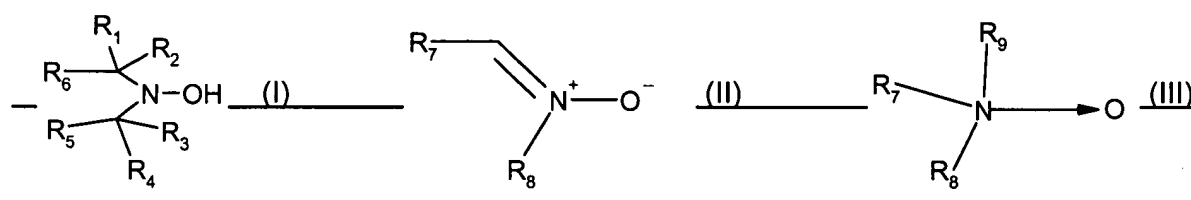
10. (currently amended) A polymerizable composition according to claim **[7]** ~~wherein in~~ comprising a hydroxylamine of formula (I) where

R₁, R₂, R₃ and R₄ are hydrogen; and
R₅ and R₆ independently are C₇-C₃₅alkyl or C₇-C₃₅alkenyl.

11. (currently amended) A process for preparing an oligomer, a cooligomer, a polymer or a copolymer (block, random or graft) by free radical polymerization of at least one ethylenically unsaturated monomer or oligomer, which comprises (co)polymerizing the monomer or monomers/oligomers in the presence of

- b) a free radical initiator and
- c) a hydroxylamine, a nitron or an alkyl N-oxid having a molecular weight of more than 250 g/mol,

where the hydroxylamine, the nitron or the alkyl N-oxid are of formulae (I), (II) or (III)



where

R₁, R₂, R₃ and R₄ are independently hydrogen, phenyl or C₁-C₄alkyl;

R₅ and R₆ are independently C₇-C₃₅alkyl, C₇-C₃₅alkenyl or C₇-C₃₅alkinyl, which may be unsubstituted or substituted by phenyl, halogen, NH₂, N(R₂₁)₂, -OH, -CN, -NO₂, or -COOR₂₁; or which may be interrupted by -O- or -C(O)-; or

R₅ and R₆ together are an alkylene bridge, which may be interrupted by a -O-, -C(O)- or a -N(C₁-C₁₈alkyl)- group to form a heterocyclic 5, 6, 7 or 8 membered ring, which may be further substituted by a -O-C(O)-]_nR₂₀, NR₂₁-C(O)-]_nR₂₀ or a ketal group;

n is 1 or 2; wherein, when n is 1, R₂₀ is hydrogen or C₁-C₁₈alkyl and, when n is 2, R₂₀ is

C₁-C₁₈alkylene; R₂₁ is hydrogen or C₁-C₁₈alkyl;

R₇ and R₈ are independently C₈-C₃₆alkyl; and

R₉ is C₁-C₄alkyl.

12. (previously presented) A process according to claim 11 wherein the polymer obtained has a polydispersity of between 1.1 and 2.5.

13. (previously presented) A process according to claim 11 wherein the polymerization is carried out by heating and takes place at a temperature of between 70°C and 160°C.

14. (original) A process according to claim 11 wherein the hydroxylamine, the nitron or the alkyl N-oxid having a molecular weight of more than 250 g/mol is present in an amount of 0.001 to 10 mol % based on the monomer or monomers.

15. (original) A process according to claim 11 wherein the weight ratio between the radical polymerization initiator and the hydroxylamine, the nitron or the alkyl N-oxid having a molecular weight of more than 250 g/mol is from 1:5 to 5:1.

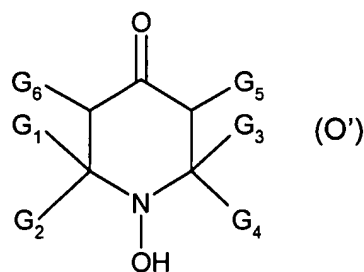
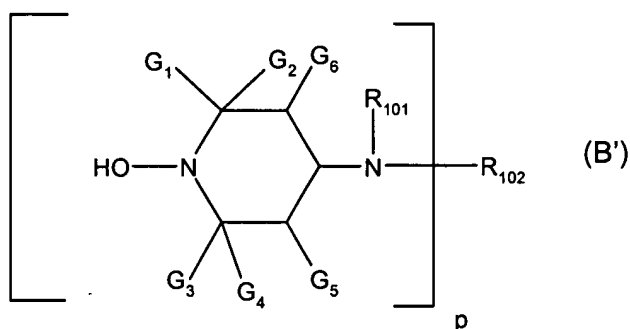
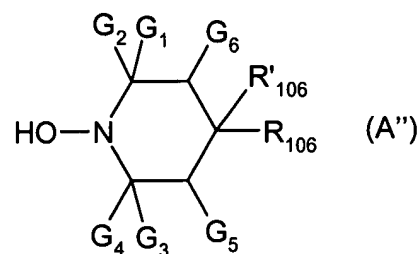
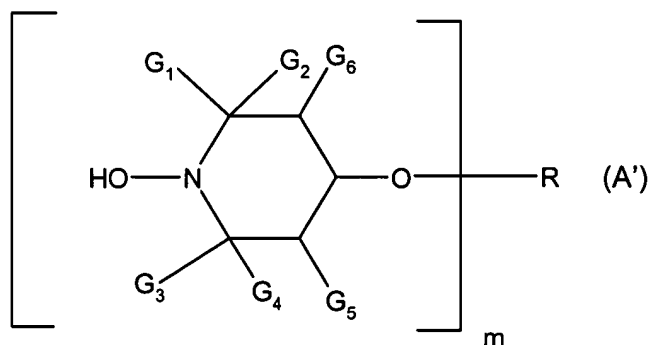
16. (previously presented) A polymer or copolymer obtained by a process according to claim 11.

17. (canceled)

18. (new) A process for preparing an oligomer, a cooligomer, a polymer or a copolymer (block, random or graft) by free radical polymerization of at least one ethylenically unsaturated monomer or oligomer, which comprises (co)polymerizing the monomer or monomers/oligomers in the presence of

b) a free radical initiator and

c) a hydroxylamine having a molecular weight of more than 250 g/mol of formula A', A'', B' or O'



wherein

m is 1,

R is hydrogen, C₁-C₁₈alkyl which is uninterrupted or interrupted by one or more oxygen atoms, cyanoethyl, benzoyl, glycidyl, a monovalent radical of an aliphatic carboxylic acid having 2 to 18 carbon atoms, of a cycloaliphatic carboxylic acid having 7 to 15 carbon atoms, or an α,β -unsaturated carboxylic acid having 3 to 5 carbon atoms or of an aromatic carboxylic acid having 7 to 15 carbon atoms;

p is 1;

R₁₀₁ is C₁-C₁₂alkyl, C₅-C₇cycloalkyl, C₇-C₈aralkyl, C₂-C₁₈alkanoyl, C₃-C₅alkenoyl or benzoyl;

R₁₀₂ is C₁-C₁₈alkyl, C₅-C₇cycloalkyl, C₂-C₈alkenyl unsubstituted or substituted by a cyano, carbonyl or carbamide group, or is glycidyl, a group of the formula -CH₂CH(OH)-Z or of the formula -CO-Z or -CONH-Z wherein Z is hydrogen, methyl or phenyl;

R₁₀₆ and R'₁₀₆ together are both hydrogen, a group =O or =N-O-R₁₂₀ wherein

R₁₂₀ is H, straight or branched C₁-C₁₈alkyl, C₃-C₁₈alkenyl or C₃-C₁₈alkinyl, which may be unsubstituted or substituted by one or more OH, C₁-C₈alkoxy, carboxy

or C₁-C₈alkoxycarbonyl; or is C₅-C₁₂cycloalkyl or C₅-C₁₂cycloalkenyl;

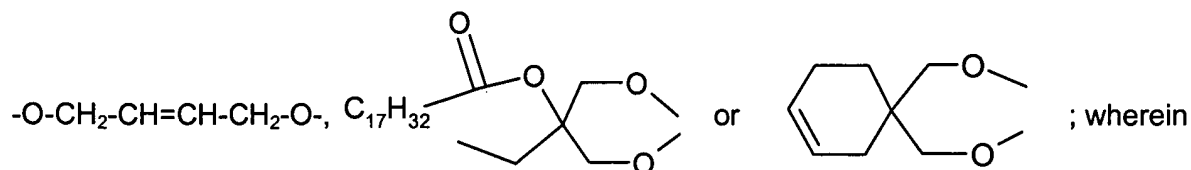
or is phenyl, C₇-C₉phenylalkyl or naphthyl which may be unsubstituted or substituted by one or more C₁-C₈alkyl, halogen, OH, C₁-C₈alkoxy, carboxy or C₁-C₈alkoxycarbonyl;

or is $-\text{C}(\text{O})-\text{C}_1-\text{C}_{36}\text{alkyl}$, or an acyl moiety of a α,β -unsaturated carboxylic acid having 3 to 5 carbon atoms or of an aromatic carboxylic acid having 7 to 15 carbon atoms;

or is $-\text{SO}_3^-\text{Q}^+$, $-\text{PO}(\text{O}^-\text{Q}^+)_2$, $-\text{P}(\text{O})(\text{OR}_2)_2$, $-\text{SO}_2-\text{R}_2$, $-\text{CO}-\text{NH}-\text{R}_2$, $-\text{CONH}_2$, COOR_2 , or $\text{Si}(\text{Me})_3$, wherein Q^+ is H^+ , ammonium or an alkali metal cation; or

R_{106} and R'_{106} are independently $-\text{O}-\text{C}_1-\text{C}_{12}\text{alkyl}$, $-\text{O}-\text{C}_3-\text{C}_{12}\text{alkenyl}$, $-\text{O}-\text{C}_3-\text{C}_{12}\text{alkinyl}$, $-\text{O}-\text{C}_5-\text{C}_8\text{cycloalkyl}$, $-\text{O}-\text{phenyl}$, $-\text{O}-\text{naphthyl}$ or $-\text{O}-\text{C}_7-\text{C}_9\text{phenylalkyl}$; or

R_{106} and R'_{106} together form one of the bivalent groups $-\text{O}-\text{C}(\text{R}_{121})(\text{R}_{122})-\text{CH}(\text{R}_{123})-\text{O}-$, $-\text{O}-\text{CH}(\text{R}_{121})-\text{CH}_2-\text{C}(\text{R}_{122})(\text{R}_{123})-\text{O}-$, $-\text{O}-\text{CH}(\text{R}_{122})-\text{CH}_2-\text{C}(\text{R}_{121})(\text{R}_{123})-\text{O}-$, $-\text{O}-\text{CH}_2-\text{C}(\text{R}_{121})(\text{R}_{122})-\text{CH}(\text{R}_{123})-\text{O}-$, $-\text{O}-\text{o-phenylene}-\text{O}-$, $-\text{O}-1,2\text{-cyclohexyliden}-\text{O}-$,



R_{121} is hydrogen, $\text{C}_1-\text{C}_{12}\text{alkyl}$, COOH , $\text{COO}-(\text{C}_1-\text{C}_{12})\text{alkyl}$ or $\text{CH}_2\text{OR}_{124}$;

R_{122} and R_{123} are independently hydrogen, methyl ethyl, COOH or $\text{COO}-(\text{C}_1-\text{C}_{12})\text{alkyl}$;

R_{124} is hydrogen, $\text{C}_1-\text{C}_{12}\text{alkyl}$, benzyl, or a monovalent acyl residue derived from an aliphatic, cycloaliphatic or aromatic monocarboxylic acid having up to 18 carbon atoms;

G_6 is hydrogen and G_5 is hydrogen or $\text{C}_1-\text{C}_4\text{alkyl}$, and

G_1 , G_2 , G_3 and G_4 are methyl; or

G_1 and G_3 are methyl and G_2 and G_4 are ethyl or propyl or G_1 and G_2 are methyl and G_3 and G_4 are ethyl or propyl.